



## Interactive web site and app for early magnetic resonance education

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*Published in:*  
Physica Medica

*Link to article, DOI:*  
[10.1016/j.ejmp.2016.07.556](https://doi.org/10.1016/j.ejmp.2016.07.556)

*Publication date:*  
2016

*Document Version*  
Peer reviewed version

[Link back to DTU Orbit](#)

*Citation (APA):*  
Hanson, L. G. (2016). Interactive web site and app for early magnetic resonance education. *Physica Medica*, 32(Supplement 3), 258. <https://doi.org/10.1016/j.ejmp.2016.07.556>

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## **TITLE: 'INTERACTIVE WEB SITE AND APP FOR EARLY MAGNETIC RESONANCE EDUCATION'**

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### **Introduction**

Teaching and understanding basic Magnetic Resonance (MR) is a challenge. This is clear from the educational literature that often repeats misinterpretations of quantum mechanics reminiscent of its earliest formulations (see [www.drcmr.dk/MR](http://www.drcmr.dk/MR) that also links to the developed software). Modern quantum formulations of MR are much closer to classical descriptions than to typical quantum inspired myths frequent in literature. This opens for intuitive educational computer simulation using modern web technologies offering excellent interactive possibilities for experimentation.

### **Purpose**

An educational web page and a corresponding free Android app, *CompassMR*, were developed for teaching of basic MR. They simulate Compass Magnetic Resonance that is easy to understand by all, and serves as an excellent starting point for introducing precession, nutation, FIDs and spectra, that are also simulated.

### **Materials and Methods**

The web page was developed in JavaScript/HTML5 which is increasingly supported by modern browsers. A corresponding Android app was made using the PhoneGap web service that also offers iPhone and Windows phone support (but due to cost, currently no app is offered for these).

### **Results**

The web page works well, e.g. in recent Chrome and Firefox browsers that supports HTML5. Soon after release, the corresponding app was running on more than 60 devices worldwide, and got top ratings.

### **Conclusion**

Modern web technologies are suited for designing much needed educational simulation tools for MR.

### **DISCLOSURE**

Nothing to disclose.